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September 30, 2020

British Columbia Utilities Commission
Suite 410, 900 Howe Street
Vancouver, BC
V6Z 2N3

Attention: Ms. Marija Tresoglavic, Acting Commission Secretary

Dear Ms. Tresoglavic:

Re: FortisBC Inc. (FBC)

Project No. 1598940

Application for Approval of Rate Design and Rates for Electric Vehicle Direct Current Fast Charging Service dated December 22, 2017 (Original Application)

Revised and Updated Application dated September 30, 2020

In accordance with British Columbia Utilities Commission Order G-223-20 setting out the regulatory timetable for the review of the above-referenced Original Application, FBC files the attached Revised and Updated Application in lieu of an evidentiary update as contemplated in the timetable.

The Original Application was filed almost three years ago on December 22, 2017 and there have been significant regulatory and factual developments since that time. These developments include amendments to the Greenhouse Gas Reduction (Clean Energy) Regulation and expansion of FBC's electric vehicle direct current fast charging stations. Given these extensive changes, attempting to merely update the Original Application would have been a complex and confusing exercise. FBC is therefore filing a stand-alone Revised and Updated Application that reflects the current regulatory framework and factual matrix.

FBC is therefore withdrawing its Original Application, and requests that the BCUC accept the attached Revised and Updated Application for review in this proceeding.

If further information is required, please contact the undersigned.

Sincerely,

FORTISBC INC.

Original signed:

Diane Roy

Attachments

cc (email only): Registered Parties

FORTIS BC™

FORTISBC INC.

Application for Approval of Rate Design and Rates for Electric Vehicle Direct Current Fast Charging Service

Revised and Updated

September 30, 2020

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1. INTRODUCTION

1.1 *INTRODUCTION AND APPROVALS SOUGHT*

FortisBC Inc. (FBC) files this Application for Approval of a Rate Design and Rates for Electric Vehicle Direct Current Fast Charging Service (Application) to establish permanent rates and related approvals for its electric vehicle (EV) direct current fast charging (DCFC) stations. All of FBC's existing and planned DCFC stations are prescribed undertakings pursuant to section 18 of the *Clean Energy Act*, as they fall within the class of prescribed undertaking set out in section 5 of the *Greenhouse Gas Reduction (Clean Energy) Regulation* (GGRR). FBC's proposed rates for these stations are $0.27 per minute for 50 kW DCFC service and $0.54 per minute for 100 kW DCFC service. These rates recover FBC's cost of service on a levelized basis and will support the growth and development of EV use in its service territory.

As noted in the cover letter to the Application, FBC is formally withdrawing its original Application for Approval of Rate Design and Rates for Electric Vehicle Direct Current Fast Charging Service filed on December 22, 2017 (Original Application). Since the time FBC filed the Original Application, FBC's DCFC station program has progressed and FBC has more recent information on which to set its proposed rates. Therefore, rather than attempting to update the Original Application, which is now almost three years old, this Application replaces the Original Application and is a stand-alone filing, i.e. does not require any reference back to the Original Application.

With this Application, FBC applies to the British Columbia Utilities Commission (BCUC) for the following approvals pursuant to sections 59-61 of the *Utilities Commission Act* (UCA):

1. Final approval of Rate Schedule (RS) 96 – Electric Vehicle Charging, which includes a $0.27 per minute EV charging rate for service at FBC-owned DCFC 50 kW stations and a $0.54 per minute EV charging rate for service at FBC-owned DCFC 100 kW stations, attached as Appendix B, and described in Section 3 of this Application;
2. Approval that Rate Schedule 96 shall not be subject to general rate increases, unless otherwise directed by the BCUC, as discussed in Section 3.3 of the Application;
3. Approval for FBC's proposed straight line 10 percent depreciation rate for FBC-owned EV DCFC stations, as set out in Section 3.2.2 of this Application; and
4. Approval to include the assets associated with the EV charging stations, and related revenues and expenses, in FBC's regulated accounts as set out in Section 4 of this Application.

A draft final order is included as Appendix C.

1.2 *BACKGROUND AND REGULATORY CONTEXT*

1.2.1 Current Status of the FBC DCFC Program

As of the date of this Application, FBC has installed 23 DCFC stations in its service territory, which are currently subject to the interim rate of $0.30 per minute ($9.00 per half hour)[1] approved by BCUC Order G-9-18. FBC is also planning to install a further 17 stations by the end of 2021. FBC's deployment of DCFC stations within its service territory (referred to as the B.C. Southern Interior EV Fast Charging Network or the Project) will help enable highway EV travel both within and through FBC's service territory.

FBC first filed for approval of an EV charging rate in its Original Application to the BCUC dated December 22, 2017. On January 12, 2018, the BCUC issued Order G-9-18 and the associated Reasons for Decision (Reasons) that approved on an interim basis, "…a time-based rate of $9.00 per 30-minute period for EV charging at FBC owned DCFC stations, as set out in RS 96". The BCUC also adjourned the regulatory process until further notice.

Order G-9-18 also directed FBC "to separately track and account for all costs associated with the DCFC stations and exclude all such costs from its utility rate base until the Commission directs otherwise." Accordingly, FBC's capital costs associated with existing stations have been held outside rate base, including any associated costs for depreciation, O&M, financing and return. As of September 24, 2020, the amount of capital cost including work in progress being held outside of rate base is $3.1 million.

FBC currently owns and operates 23 DCFC stations across 16 sites located within FBC service territory. All of the stations and sites that FBC has constructed, owns and operates, and others that it plans to construct, own and operate as at the time of this Application, are shown in Figure 1-1 below. By the end of 2021, FBC plans to own and operate 40 stations across 23 sites as further detailed in Section 2.6.

[1] A "per minute" rate model is consistent with how EV rates are generally referred to in the industry.

Figure 1-1: Map of DCFC Stations and Sites (Existing and Planned) in the B.C. Southern Interior EV Fast Charging Network

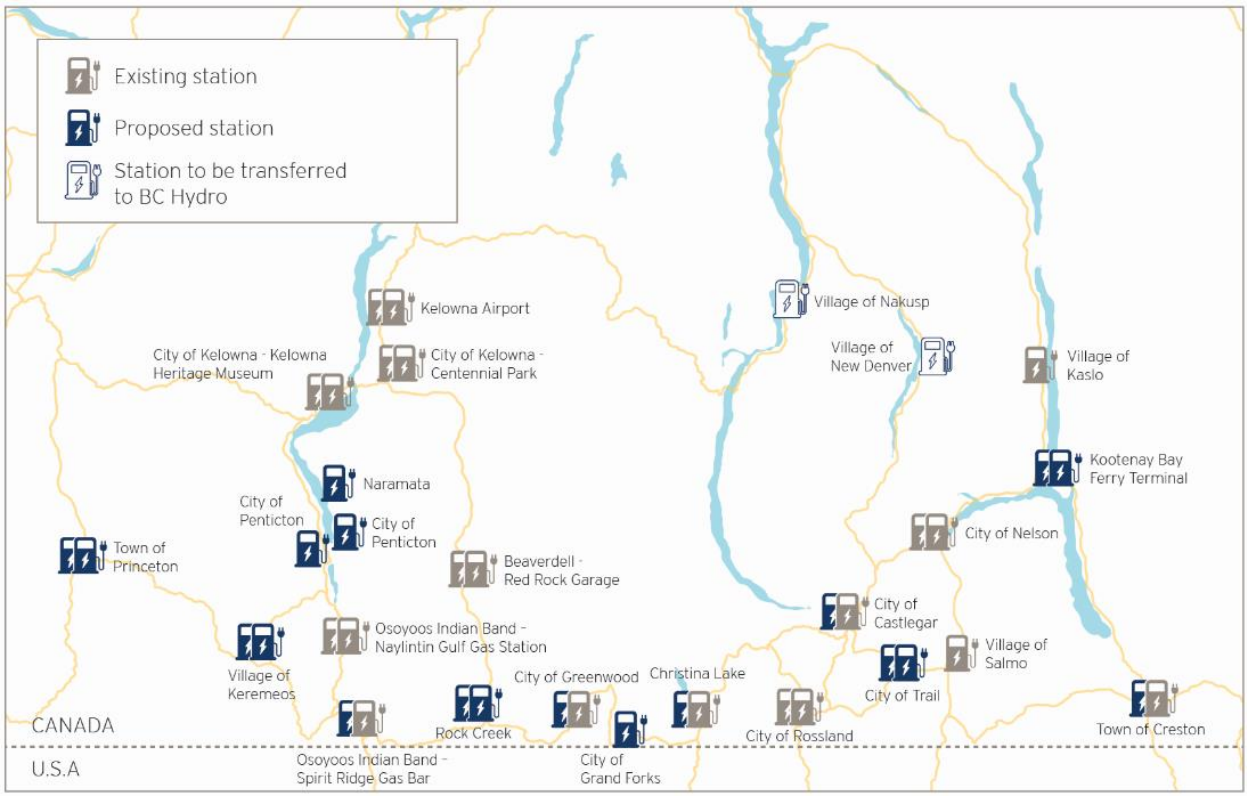

Table 2-2 provides further detail on the anticipated timing of the planned deployments shown above. As discussed in Section 2.6, FBC plans to transfer ownership of the sites in New Denver and Nakusp to BC Hydro in exchange for sites in Keremeos and Princeton.

1.2.2 Regulatory Developments since Filing the Original Application

Concurrent with the issuing of Order G-9-18, the BCUC issued Order G-10-18 which established an inquiry to review the regulation of EV charging service (EV Inquiry). The EV Inquiry proceeded in two Phases.

Phase 1 examined the EV charging services market in general. The BCUC issued its Phase One Report on November 26, 2018. In the Phase One Report, key Panel findings included that although the public EV charging market does not exhibit monopoly characteristics, the broad definition of "compensation" within the *UCA* renders most EV charging stations to be public utilities. The Panel concluded that economic regulation of any aspect of the EV market is not required to protect consumers from potential abuse of monopoly power and recommended a broad exemption from the *UCA* for entities not otherwise a public utility (non-exempt utility) under the *UCA.* Following the Phase One report, the BCUC issued Order G-66-19 dated March 22,

2019, as enabled by Ministerial Order No. M104 pursuant section 88(3) of the UCA.[2] This order exempts a person from Part 3 of the UCA with respect to the sale, delivery or provision of electricity for EV charging services to or for the public or a corporation for compensation, except for the provisions of sections 25 and 38 relating to safety only, in the class of cases where the person is not otherwise a public utility under the UCA. The exemption also applies to cases where a person is a landlord or Strata Corporation that is already a public utility under the UCA solely because of the services offered in its capacity as a landlord or a strata corporation.

Phase 2 focused on the role of "non-exempt public utilities" (e.g. BC Hydro and FBC Inc.). The BCUC issued its Phase Two Report on June 24, 2019. Key Panel findings from the Phase Two report include acknowledgement that, although there may be circumstances that justify non-exempt utility ratepayers bearing the risk of EV infrastructure investments, it is in the public interest to ensure that the playing field remains as level as possible to ensure that non-exempt public utility investments do not crowd out private (exempt utility) investment. The Panel made these recommendations to Government.

On June 22, 2020, the Lieutenant Governor in Council issued Order in Council (OIC) 339, amending the *Greenhouse Gas Reduction (Clean Energy) Regulation* (GGRR).[3] The amendments to the GGRR create a class of prescribed undertaking pursuant to section 18 of the *Clean Energy Act*, for a public utility's construction and operation, or purchase and operation, of eligible EV charging stations.

By letter submitted June 30, 2020, FBC advised the BCUC that it expected to be in a position to restart the regulatory review process for the above referenced Application with the filing of an evidentiary update to the Application on or before September 30, 2020.

On July 10, 2020, the BCUC issued Order G-183-20 restarting the proceeding for the review and directing FBC as follows:

> FBC must clarify in writing whether it will be applying for review of the five DCFC stations in the Application as a prescribed undertaking under section 5 of the GGRR… If not, please confirm the applicable provisions of the UCA pursuant to which FBC is seeking BCUC review of the Application.

In response, by a letter dated July 28, 2020, FBC informed the BCUC that it intended to provide information confirming that the five DCFC sites noted in the Original Application contain "eligible charging stations" as defined by the GGRR and meet the test for prescribed undertakings in section 5 of the GGRR, as amended by OIC 339. FBC advised it would also provide equivalent confirmation for additional DCFC sites either already installed or planned for installation since Order G-9-18 was issued that also meet the test for prescribed undertakings under section 5 of the GGRR, and for which RS 96 also applies.

[2] Online: https://www.bclaws.ca/civix/document/id/mo/mo/2019_m104
[3] OIC 339 is attached to the Application as Appendix A.

Further to FBC's letter of July 28, 2020, FBC describes in Section 2 of this Application how each of its existing and planned EV DCFC stations are prescribed undertakings pursuant to section 5 of the GGRR. As the stations are prescribed undertakings, pursuant to section 18 of the *Clean Energy Act* the BCUC must set rates that allow FBC to collect sufficient revenue in each fiscal year to enable it to recover its costs incurred with respect to the stations. The form of that rate, however, is within the purview of the BCUC under the UCA. Therefore, in Section 3 of this Application, FBC is submitting proposed rates for EV charging service for review and final approval by the BCUC.

1.3 *PROPOSED REGULATORY PROCESS*

FBC proposes amending the preliminary regulatory timetable established by the BCUC in Order G-223-20, as set out in Table 1-1 below, modifying the dates following intervener registration and setting out the rest of the regulatory timetable. Given that FBC's EV charging stations are prescribed undertakings under section 5 of the GGRR and section 18 of the *Clean Energy Act*, FBC believes that a written hearing process with one round of information requests (IRs) from the BCUC and interveners will provide an appropriate and efficient review of the Application. FBC respectfully proposes the following regulatory timetable for the review process.

Table 1-1: Proposed Regulatory Timetable

ACTION	DATE (2020)
FBC to publish and provide notice of the Application and Evidentiary Update	Monday, October 5
Intervener and Interested Party Registration	Friday, October 16
BCUC IR No. 1	Thursday, October 29
Intervener IR No. 1	Thursday, November 5
FBC Response to IR No. 1	Thursday, November 19
FBC Written Final Argument	Thursday, December 3
Intervener Written Final Argument	Thursday, December 17
ACTION	**DATE (2021)**
FBC Written Reply Argument	Thursday, January 7

Costs associated with the regulatory process and approval of this Application are being captured in the *EV Charging Stations Rate Design and Tariff Application* deferral account as shown on Schedule 12.1 in the FortisBC Inc. Annual Review for 2020 and 2021 Rates proceeding currently before the BCUC.

A draft procedural order is included as Appendix D.

1.4 *ORGANIZATION OF APPLICATION*

The remainder of this Application is organized as follows:

- In Section 2, FBC shows how each of its existing and planned DCFC stations are prescribed undertakings under section 18 of the *Clean Energy Act* as they fall within the class of undertakings in section 5 of the GGRR.
- In Section 3, FBC sets out its proposed rates for its DCFC stations, providing a review of the cost of service of the DCFC stations and the proposed rates to recover those costs.
- Section 4 describes the proposed treatment of costs and revenue associated with the EV DCFC stations, including those which have been excluded from FBC's rate base in accordance with BCUC Order G-9-18.
- Section 5 concludes this Application.

2. FBC'S EV STATIONS ARE PRESCRIBED UNDERTAKINGS

2.1 *OVERVIEW OF GGRR CRITERIA*

FBC is requesting acceptance of the rates for EV DCFC service on the basis that the DCFC stations to which they apply are prescribed undertakings under section 18 of the *Clean Energy Act* and section 5 of the GGRR. In this section, FBC describes how its stations are prescribed undertakings within the class set out in section 5 of the GGRR.

Section 18(1) of the *Clean Energy Act* defines a prescribed undertaking as "…a project, program, contract or expenditure that is in a class of projects, programs, contracts or expenditures prescribed for the purpose of reducing greenhouse gas emissions in British Columbia." The *Clean Energy Act* provides that the Lieutenant Governor in Council can enact "prescribed undertakings" that are intended to encourage "the use of electricity, or energy directly from a clean or renewable resource instead of the use of other energy sources that produce higher greenhouse gas emissions." The GGRR describes classes of prescribed undertakings pursuant to section 18 of the *Clean Energy Act*.

FBC's DCFC stations fall within the class of prescribed undertakings set out in section 5 of the GGRR as follows:

> 5(2) (a) the public utility constructs and operates, or purchases and operates, an eligible charging station;
>
> (b) the public utility reasonably expects, on the date the public utility decides to construct or purchase an eligible charging station, that
>
> (i) the station will come into operation by December 31, 2025, and
>
> (ii) if the station will be located in a limited municipality, the number of eligible charging sites in the municipality on the date the station will come into operation will not exceed the site limit for the municipality on that date;
>
> (c) if an eligible charging station comes into operation on or after January 1, 2022, the station uses or is configured to use the Open Charge Point Protocol.

There are several defined terms in section 5(1) of the GGRR. An "eligible charging station" is defined to mean a fast charging station that:

> (a) is available for use 24 hours a day by any member of the public,
>
> (b) does not require users to be members of a charging network, and
>
> (c) is capable of charging electric vehicles of more than one make.

A "limited municipality" is defined as a municipality with a population of 9,000 or more, and "site limit", in relation to a limited municipality, is the number calculated by dividing the population of the municipality by 9,000, and if applicable, rounding the quotient up to the nearest whole number.

As described in the sections below, all of FBC's existing and planned DCFC stations fall within the class of prescribed undertaking in section 5 of the GGRR.

2.2 *FBC WILL OWN AND OPERATE THE DCFC STATIONS*

FBC will own and operate the DCFC stations, which satisfies the criteria in section 5(2)(a) of the GGRR. FEI will contract FLO Services Inc. (FLO) to provide maintenance services and network management services. FLO will provide customer support services for EV drivers using the station, and will also be responsible for providing technical support for diagnosing and remedying any breakdowns or malfunctions of the DCFC stations.

2.3 *FBC DCFC CHARING STATIONS ARE "ELIGIBLE STATIONS"*

The existing 23 DCFC stations (16 sites) currently in operation, as well as the 17 planned stations (7 sites) in the Application meet the definition of an eligible charging station in Section 5(1) of the GGRR in that they are all: available for use 24 hours a day by any member of the public; do not require users to be members of a charging network, and are capable of charging electric vehicles of more than one make.

Drivers using FBC DCFC stations for EV recharging purposes will have two options for payment transactions with FBC:

1. Creating a membership with the FLO network and linking an appropriate means of payment (credit card, bank account) to that membership; or
2. Scanning a Quick Response Code (QR code) on the station with their mobile phone which will take the customer to a payment portal where they can enter their credit card details which will allow the station to be activated. Customers may also contact FLO's telephone customer support to establish a single use credit card transaction. The customer's credit card will be charged the appropriate amount once the charging session is complete.

All FBC DCFC stations will be available for use 24 hours a day by any member of the public, without any requirement for users to be members of a charging network, as described above. Stations also currently support roaming for Flo, Chargepoint, BC Hydro, Electric Circuit, and eCharge network members.

All FBC DCFC stations will be equipped with connectors supporting both CHAdeMO and Combined Charging System (CCS) connectors capable of charging electric vehicles of more than one make.

2.4 ALL FBC STATIONS MEET THE LIMITED MUNICIPALITY SITE LIMIT TEST

Of the 16 sites currently in operation, four are located in a "limited municipality" and are therefore subject to the "site limit". Three of these four sites are located in Kelowna and one is located in Nelson. None of these municipalities exceed the prescribed site limit. Additionally, FBC expects to own and operate a site in the limited municipality of Penticton beginning October 1, 2020 with another site planned for deployment in Penticton in 2021. The following table details the count of non-exempt utility sites (existing and planned) as well as exempt[4] utility sites (existing and planned).

Table 2-1: Stations in Limited Municipalities

Municipality	Population (2016 Census)	Non-exempt utility site count (current)	Non-exempt utility site count (planned)	Exempt utility site count (current)	Exempt utility site count (planned)	Total existing & planned sites	Site Limit (2016 Census Pop./ 9,000)
Kelowna	142,146	3	0	2	0	5	16
Penticton	43,432	0	2	0	1	3	5
Nelson	10,664	1	0	0	0	1	2

As shown above, FBC's existing and planned stations comply with the prescribed site limits.

For the remaining 12 sites in operation, and the seven sites planned for deployment through 2021, the element of the definition of the prescribed undertaking contained in Section 5(b)(ii) of the GGRR is not a consideration as these sites are all located in municipalities with populations less than 9,000, or the site is located in a community that is not a municipality as defined by the *Community Charter*. The location of the 16 DCFC sites that FBC has constructed, owns and operates, and others that it plans to construct, own and operate as at the time of this Application, is detailed in Table 2-2 below.

2.5 FBC'S STATIONS WILL BE CONFIGURED TO USE OPEN CHARGE POINT PROTOCOL

The GGRR also requires that any eligible charging station coming into operation on or after January 1, 2022 use or be configured to use the Open Charge Point Protocol (OCPP). While FBC expects all of its planned stations to come into operation prior to January 1, 2022, all of its charging stations (both current and planned) will be configured to use the OCPP. OCPP refers to a network communication protocol between DCFC stations and a charging station management system. FBC's DCFC stations currently use a communication protocol referred to as the Open Network Protocol (ONP)-Intranetworking for communication between the stations and the charging station management system. However, FBC's vendor AddEnergie is committed to achieving OCPP compliance by mid-2021 for all stations owned and operated by FBC.

[4] "Exempt" sites are those owned and/or operated by entities that are not otherwise public utilities and are therefore not subject to regulation by the BCUC, except with respect to safety.

2.6 *SUMMARY OF COMPLIANCE WITH GGRR CRITERIA*

Table 2-2 below summarizes each existing and planned station and site and how it meets the criteria of the GGRR. At this time, FBC does not expect to deploy additional sites beyond those detailed below. Under section 18 of the *Clean Energy Act*, FBC will be reporting annually to the Minister, with a copy to the BCUC, regarding the construction and operation of DCFC stations under section 5 of the GGRR.

Note that site ownership and operation of the DCFC stations in New Denver and Nakusp are to be transferred to BC Hydro prior to March 31, 2021. FBC will assume ownership and operation of equivalent existing BC Hydro sites in Keremeos and Princeton in exchange, resulting in a total of 23 sites planned for operation by Q2 2021.

Table 2-2: FBC DCFC Sites

		Greenhouse Gas Reduction Regulation Criteria						
GGRR Section		5(1)(a)	5(1)(b)	5(1)(c)	5(2)(a)	5(2)(b)(i)	5(2)(a)(ii)	5(2)(c)
		Station is available for use 24 hours a day by any member of the public	Station does not require users to be members of a charging network	Station is capable of charging electric vehicles of more than one make	Eligible charging station is constructed and operated or purchased and operated by the public utility	The public utility reasonably expects, on the date the public utility decides to construct or purchase an eligible charging station, that		For any eligible charging station coming into operation on or after January 1, 2022, the station uses or is configured to use the Open Charge Point Protocol.
						The station will come into operation by December 31, 2025. (Operation Date)	Is the station located in a limited municipality?[5] (Population – 2016 Census)	
No.	Sites							
1	Salmo	Yes	Yes	Yes	Yes	Jan 12, 2018	1,141	Yes
2	Christina Lake	Yes	Yes	Yes	Yes	Jan 12, 2018	n/a[6]	Yes
3	Creston	Yes	Yes	Yes	Yes	Jan 12, 2018	5,351	Yes
4	Castlegar	Yes	Yes	Yes	Yes	Jan 12, 2018	8,039	Yes
5	Greenwood	Yes	Yes	Yes	Yes	Jan 12, 2018	665	Yes
6	Kelowna (Museum)	Yes	Yes	Yes	Yes	Nov 8, 2019 May 21, 2020[7]	142,146	Yes
7	Kelowna (Centennial Park)	Yes	Yes	Yes	Yes	Nov 8, 2019 May 25, 2020	142,146	Yes
8	Kelowna (Airport)	Yes	Yes	Yes	Yes	May 24, 2019 (2 stations)	142,146	Yes

[5] The calculation of Site Limit for any station in a Limited Municipality (population > 9,000) is found in Table 2-1
[6] Station is not located in a municipality as defined by the *Community Charter*
[7] If a site has multiple stations, and if the stations were not installed at the same time, multiple Operation Dates are listed.

		Greenhouse Gas Reduction Regulation Criteria						
GGRR Section		5(1)(a)	5(1)(b)	5(1)(c)	5(2)(a)	5(2)(b)(i)	5(2)(a)(ii)	5(2)(c)
9	Beaverdell	Yes	Yes	Yes	Yes	Nov 8, 2019 May 28, 2020	n/a[6]	Yes
10	Rossland	Yes	Yes	Yes	Yes	Jan 13, 2020 May 6, 2020	3,729	Yes
11	Nelson	Yes	Yes	Yes	Yes	Jan 8, 2020 May 8, 2020	10,664	Yes
12	Osoyoos	Yes	Yes	Yes	Yes	Dec 10, 2019	5,085	Yes
13	Oliver	Yes	Yes	Yes	Yes	Dec 10, 2019 May 15, 2020	4,928	Yes
14	Kaslo	Yes	Yes	Yes	Yes	Jan 31, 2020	968	Yes
15	New Denver	Yes	Yes	Yes	Yes	Jan 31, 2020	473	Yes
16	Nakusp	Yes	Yes	Yes	Yes	Jan 31, 2020	1,605	Yes
17	Penticton (Downtown)	Yes	Yes	Yes	Yes	October 1, 2020	43,432	Yes
18	Penticton (Trade and Convention Centre)	Yes	Yes	Yes	Yes	Q2 2021	43,432	Yes
19	Trail	Yes	Yes	Yes	Yes	Q4 2020	7,709	Yes
20	Rock Creek	Yes	Yes	Yes	Yes	Q4 2020	n/a[5]	Yes
21	Keremeos	Yes	Yes	Yes	Yes	Q4 2020	1,502	Yes
22	Princeton	Yes	Yes	Yes	Yes	Q4 2020	2,828	Yes
23	Kootenay Bay	Yes	Yes	Yes	Yes	Q2 2021	n/a[6]	Yes
24	Naramata	Yes	Yes	Yes	Yes	Q2 2021	n/a[6]	Yes
25	Grand Forks	Yes	Yes	Yes	Yes	Q2 2021	4,049	Yes

1

3. RATE DESIGN

3.1 INTRODUCTION

FBC is proposing a set rate for all of its existing and planned DCFC EV stations that varies with station capacity.

Sections 18(2) and 18(3) of the *Clean Energy Act* describes the BCUC's role in the setting of rates related to prescribed undertakings:

> (2) In setting rates under the Utilities Commission Act for a public utility carrying out a prescribed undertaking, the commission must set rates that allow the public utility to collect sufficient revenue in each fiscal year to enable it to recover its costs incurred with respect to the prescribed undertaking.
>
> (3) The commission must not exercise a power under the Utilities Commission Act in a way that would directly or indirectly prevent a public utility referred to in subsection (2) from carrying out a prescribed undertaking.

FBC is proposing two rates: a time-based rate of $0.27 per minute at FBC's 50 kW DCFC stations, and a rate of $0.54 per minute at FBC's 100 kW stations.

Rates based partly or wholly on energy use (kWh) cannot currently be implemented by FBC due to the lack of Measurement Canada-approved metering.

The proposed rate is based on a cost of service analysis of the stations and assumes a reasonable level of use based on both FBC's experience with its existing stations, as well as the projected growth in sales of EVs in BC over the next 10 years. The proposed rate for the 100kW station will recover FBC's cost of service on a 10-year levelized basis, is comparable to other EV charging rates in the Province, and will encourage the adoption of EVs. The proposed rate for the 50 kW DCFC will recover FBC's cost of service on a 13-year levelized basis. The 50 kW rate design model is based on 13 years in order to include the 2018–2020 EV expenditures undertaken by FBC and still provide a complete 10-year cost projection for the planned 2021 EV capital expenditures.

3.2 COST OF SERVICE ANALYSIS

FBC's proposed rates of $0.27 per minute at a 50 kW DCFC station, and a rate of $0.54 per minute at a 100 kW station, are sufficient to recover FBC's cost of service. In the following sections, FBC first reviews the key assumptions around consumption of electricity, station usage, inflation rates, and carbon credits, then discusses the cost of service line items: capital expenditures and associated Contributions in Aid of Construction (CIAC), depreciation and amortization, cost of electricity, operating and maintenance (O&M), property taxes, income tax and earned return. Detailed financial schedules have been provided in Appendix E.

3.2.1 Key Assumptions

3.2.1.1 Electric Consumption per EV Charging Event

FBC has assumed consumption of 20 kWh per charge event based on average historical kWh volumes per charge session at FBC's existing stations. Based on historical usage patterns, 20 kWh corresponds to approximately 30 minutes of charging.

3.2.1.2 Station Usage Assumptions

The usage at FBC's EV stations are the minutes per year that EV customers will use the stations to charge their vehicles. As described below, FBC modeled EV charging usage by establishing a baseline using historical data and then applying growth rates based on third party analysis.

To understand current use, FBC reviewed historical usage (in minutes) at existing FBC-owned DCFC stations across FBC's service territory. Average usage was approximately 0.3 sessions (9 minutes) per station per day in 2018, and 0.7 sessions (21 minutes) per station per day in 2019. Data from 2020 was not included due to the impact of COVID-19 on EV charging patterns (i.e. fewer customers driving resulting in lower-than-anticipated DCFC usage compared to historical trends).

To estimate future usage of DCFC stations, FBC reviewed year-over-year projected growth rates of EV registrations in FBC's service territory based on EV sales targets from the Province's *Zero Emissions Vehicles (ZEV) Act*. FBC has assumed that the growth rate in EV registrations will be reflected in the growth rate of DCFC usage, which aligns with observations from 2018 and 2019 data.

3.2.1.3 Inflation Rates

Inflation for cost of electricity under (RS) 21 is based on FBC's indicative rate increases for 2022-2024 which average 3.5 percent. Inflation for 2020-2021 O&M is set at 2.309 percent and 3.793 percent for 2020 and 2021, respectively, as set out in FBC's Annual Review for 2020 and 2021 Rates. Inflation for all remaining years for both RS 21 and O&M is estimated at 2 percent for the purpose of this analysis. The inflation used in the remaining years is in line with the Bank of Canada historical inflation target of 2%. Inflation has been applied to O&M, in-lieu property taxes and power purchase costs.

3.2.1.4 Carbon Credits

FBC's DCFC stations will allow FBC to monetize carbon credits as a supplier of low carbon fuels. FBC has forecast an average value for the carbon credits as described in this section to be factored into the calculation of the EV rate, while actual revenue realized from the sale of carbon credits, net of administration costs, will be returned to all customers through FBC's revenue requirements in the year subsequent to monetization of the carbon credits, through a forecast (and subsequent true-up to actuals) included in Other Revenue.

The provincial government has identified the transportation sector as being a major contributor to GHG emissions in BC. In order to reduce GHG emissions, the *Renewable and Low Carbon Fuel Requirements Regulation (*RLCFRR or the Regulation) was introduced with the goal of reducing the carbon intensity of transportation fuels by ten percent by 2020. Carbon intensity is the amount of carbon dioxide equivalent emitted (CO2e) per unit of energy consumed, and is measured in tonnes.

The RLCFRR has implemented maximum allowable carbon intensity limits for transportation fuels, with which all fuel suppliers must comply in each reporting period. Fuel suppliers, including suppliers of electricity for EV charging, must submit reports in each reporting period which detail their compliance with the Regulation.

All fuel with a carbon intensity that exceeds the limits set by the Regulation will generate debits, while fuel with a carbon intensity that falls below the limits of the Regulation will generate credits. At the end of each compliance period, fuel suppliers need to ensure that they have at least as many credits as debits.

All fuel suppliers who are in a debit position, meaning that the carbon intensity of the fuel they supplied exceeds the limit mandated by the RLCFRR during the reporting period, must pay a penalty of $200 per tonne of CO2e. Alternatively, these fuel suppliers may obtain carbon credits from another supplier who supplies lower carbon fuels and has generated a net credit position in each reporting period.

The carbon intensity of electricity falls below the maximum carbon intensity limit set by the RLCFRR for the reporting period. Therefore, FBC will earn carbon credits which, subject to verification and approval by the Ministry of Energy, Mines and Petroleum Resources, FBC may transfer to fuel suppliers who are not compliant with the maximum carbon intensity limits set by the RLCFRR.

With FBC's assumed usage projections for these stations, FBC will generate low carbon fuel credits of 1,342 tonnes of CO2e annually on average. Assuming the price for carbon credits matches the penalty for failing compliance with RLCFRR of $200 per tonne, FBC would receive $268,400 per year on average over ten years.

For modelling purposes, FBC has assumed that the monetized value of carbon credits grows from approximately $6 thousand to $425 thousand by 2030 based on FBC's forecasted usage growth and is embedded in the EV charging cost of service. As a frame of reference, each 20 kWh charging session has the potential to generate between $2.58 and $3.03 in carbon credits, depending on negotiated sale prices for the credits of between $170 and $200 per tonne.

In its Annual Reviews and future revenue requirement applications, FBC will forecast revenue from the sale of carbon credits as a component of Other Revenue, which will be a credit to FBC customer rates. Under FBC's approved multi-year ratemaking plan (MRP), any variance from the forecast will be reflected in FBC's Flow-through deferral account, such that customers will receive all revenue from the sale of carbon credits.

3.2.1.5 Transaction Fees

A transaction fee of 15 percent for global management services is charged by FLO and is added to the calculated EV rate before the transaction fee. This fee covers the network management services provided by FLO (station status monitoring, remote diagnostics/upgrades, etc.), 24/7 telephone support for customers using the DCFC stations, as well as payment collection and processing.

3.2.2 Cost of Service Inputs

FBC's cost of service model is set out in the financial schedules in Appendix E. The subsections below explain each component of the cost of service.

3.2.2.1 Capital Expenditures and Contributions

FBC's estimates that its gross capital expenditures for the forty EV charging stations (existing and planned) across 23 sites will be $5.17 million. To date FBC has spent $3.48 million on EV charging stations, and plans to spend an additional $1.69 million in 2021. These expenditures cover EV station kiosks, charger connectors, poles, towers, conductors, line transformers, civil work, installation and commissioning.

A CIAC of $2.97 million, including $1.27 million received to date, is expected from numerous contributing partners including Natural Resources Canada, the Province of B.C., the Community Energy Association through funding from the Columbia Basin Trust and several others, including both the federal and provincial governments, as well as various municipal governments to support the construction of the stations, thereby lowering FBC's net total cost.

Consequently, net capital expenditures from FBC for the forty stations is forecast to be $2.197 million.

A provision included the Natural Resources Canada (NRCan) funding agreement is a requirement to repay a portion of the NRCan contribution once the Project becomes profitable on a cumulative basis. This provision has a term of 10 years and the repayment is to be determined as a ratio of the NRCan contribution in relation to the capital cost of the Project. For example, if the NRCan contribution equalled 40 percent of the capital cost of the Project (before the NRCan contribution) then the provision sets out that 40 percent of the profit is repayable to NRCan. The cumulative repayments cannot exceed the initial NRCan contribution and the calculation ends 10 years after the completion of the Project.

FBC has estimated the amount repayable to NRCan over the term of the funding agreements and included these amounts in the financials in Appendix E. FBC has included the repayment as a line item in the cost of service so that it is embedded in the EV charging rates requested for approval in this Application. The following table sets out the repayments by year and associated station capacity.

Table 3-1: Estimated NR Can Repayment Schedule ($000s)

	2020	2022	2030
50 kW Capacity	193[8]	36	208
100 kW Capacity		32	91

In accordance with the funding agreements, FBC will calculate the repayments on an actual basis. However, for the purpose of setting the EV charging rate, FBC has calculated the estimate of NR Can repayments based on the forecasts in its financial models and included it in the cost of service.

3.2.2.2 Depreciation Rate

FBC is requesting approval to use straight line depreciation for the EV charging stations, at a 10 percent depreciation rate, based on a service life of ten years. FBC's existing approved depreciation rates have been utilized for the service extension components of the capital expenditures.

3.2.2.3 Cost of Electricity

FBC has modelled the cost of power based on the DCFC stations taking metered electric service at FBC's existing rates for commercial service under RS 21[9]. The model assumes a typical half hour charge session will deliver 20 kWh of energy, with thirty-four individual 50 kW stations contributing 54 kW of demand and six 100 kW station contributing 108 kW of demand to each individually metered DCFC site. These assumed utility charges (energy use, billing demand, and customer charge), based on RS 21, are an input to the cost of service model that is used to determine the EV charging rates applied for in this Application.

3.2.2.4 Operating and Maintenance

FBC estimates that the operating and maintenance cost is $5,193 annually per station for both 50 kW and 100 kW stations. This includes maintenance, travel, repairs outside of warranty, and FBC network management expenses including half of a full-time equivalent (FTE) employee. The operating and maintenance cost drops to $4,900 in year 2026 as FBC expects to reduce costs related to managing network administration of FBC stations. In the years 2018-2020, for the 50 kW station financial model, annual O&M has been less than the forecast $5,193 due to lower than expected repairs as well as due to the incremental addition of a 0.5 full-time equivalent (FTE) beginning in 2021.

[8] The tax shelter from the Accelerated Investment Incentive on the 50 kW EV Stations creates a condition of profit for the 50 kW stations receiving NR Can funds in 2020 such that a substantial repayment of those funds is forecast.

[9] The initial RS 21 rate used in the modeling is the January 2021 rate inclusive of the 6.37% requested increase currently under consideration by the BCUC in a separate process.

3.2.2.5 Property Taxes

There are no specific property tax exemptions for EV stations. Therefore, FBC EV charging revenues will be subject to the 1% in lieu property taxes. There is no property tax on the land itself since it is being leased.

3.2.2.6 Other Revenue – Carbon Credits

As discussed in Section 3.2.1.4 above, FBC has forecast the monetization of carbon credits associated with EV charging. FBC has assumed that the price for carbon credits matches the penalty for failing compliance with RLCFRR of $200 per tonne. FBC has embedded the credit from the monetization of the carbon credits as a line item in the cost of service so that the value of these credits is embedded in the EV charging rate.

3.2.2.7 Income Taxes

The income tax rate applied is the currently enacted 2020 rate of 27%. The EV charging units attract a capital cost allowance (CCA) rate of 30% on a declining balance basis. Additionally, on November 21, 2018, the Federal government introduced the Accelerated Investment Incentive regime, which enabled FBC to claim additional CCA deductions in the year of addition for all qualifying expenditures made after November 20, 2018 and before January 1, 2028. The impact of the additional CCA deductions has been incorporated into the financial models used to calculate the applied for EV charging rates. The CCA rate of 30% and the Accelerated Investment Incentive regime results in an income tax recovery in the first few years.

3.2.2.8 Earned Return

FBC has used its approved capital structure for years 2018 and 2019 and has used the 2020 and 2021 capital structures, as applied for, from FBC's Annual Review for 2020 and 2021 Rates when determining earned return. In all cases, the equity thickness and return on equity equalled 40 percent and 9.15 percent respectively. While it is FBC's practice to use the latest approved capital structure when producing forward looking financial analysis, FBC felt it was appropriate to use the 2020 and 2021 applied for capital structures in this analysis to reflect the current short term and long term interest rates, both of which are lower than what was approved for 2019.

3.3 *PROPOSED RATE*

FBC's proposed rate is calculated based on the levelized cost of service incorporating the assumptions and cost-of-service inputs described in the previous sections. Using a levelized approach allows FBC to set an EV charging rate that remains flat over the analysis period and collects the cost of service associated with the EV stations over that period. The levelized cost

of service is determined using FBC's weighted average cost of capital as the discount rate[10] and is the present value of the annual cost of service over the analysis period. Having a flat rate over the analysis period, rather than a rate that follows the cost of service profile, will allow customers to have stability and consistent rates as opposed to having rates that vary each year with the cost of service and forecast usage.

FBC expects usage to increase over the analysis period by approximately 31 percent per year. When the levelized usage over the analysis period is used as the denominator with the levelized cost of service, a rate of $0.27 per minute and $0.54 per minute is derived for the 50 kW and 100 kW stations respectively. FBC provides detailed calculations in Appendix E, Schedule 2, which demonstrate that the charging rate collects the incremental cost of service over the analysis period based on FBC's assumptions.

FBC provides the rate calculation below.

Table 3-2a: DCFC Service Rate Calculation 50 kW - 13 Year Analysis

Line No.	Particulars		Amount	Reference
1	Present Value of the Cost of Service	$	3,583,047	Appendix E, Schedule 2 Line 7 x 1,000
2	Present Value Charging Minutes Per Year		15,778,924	Appendix E, Schedule 2 Line 13
3	Cost of Service based Rate	$	0.23	Line 1 / (Line 2)
4	Transaction Fee		15%	
5	Levelized $ per minute (incl, Trans Fee)	$	0.27	Line 3 / (1 - Line 4)

Table 3-2b: DCFC Service Rate Calculation 100 kW - 10 Year Analysis

Line No.	Particulars		Amount	Reference
1	Present Value of the Cost of Service	$	929,393	Appendix E.1, Schedule 2 Line 7 X 1,000
2	Present Value Charging Minutes Per Year		2,026,154	Appendix E.1, Schedule 2 Line 12
3	Cost of Service based Rate	$	0.46	Line 1 / (Line 2)
4	Transaction Fee		15%	
5	Levelized $ per minute (incl, Trans Fee)	$	0.54	Line 3 / (1 - Line 4)

The rates per minute developed above are generally consistent with rates in place in other jurisdictions across Canada. In Table 3-3 below, FBC provides a summary for comparison purposes.

[10] The after-tax weighted average discount rate for years 2018 and 2019 is based on the capital structures approved in FBC's Annual Review for 2018 Rates and FBC's Annual Review for 2019 Rates respectively. For 2020 and 2021 FBC used an after-tax weighted average discount rate derived from the capital structures for 2020 and 2021 as applied for in FBC's Annual Review for 2020 and 2021 Rates. For 2022 and beyond the after-tax weighted average discount rate is equal to 2021.

Table 3-3: EV Rate Comparison

Location	Provider	Fee Structure	Rate	Approx. # of fast chargers installed	Speed of fast chargers installed	Hyperlink
Alberta	ATCO	Time-based	$0.333/min	18	50 kW	https://www.atco.com/en-ca/projects/peaks-to-prairies-electric-vehicle-charging-station.html
British Columbia	City of Vancouver	Time-based	$0.26/min	7	50 kW	https://vancouver.ca/streets-transportation/electric-vehicles.aspx
British Columbia	FortisBC	Time-based (proposed rates)	50 kW $0.27/min 100 kW $0.54/min	23	50 kW – 100 kW	https://www.fortisbc.com/services/sustainable-energy-options/electric-vehicle-charging/public-electric-vehicle-charging-stations-in-bc
New Brunswick	NB Power / e-charge network	Time-based	$0.25/min	25	50 kW	https://www.echargenetwork.com/stations-and-rates
Ontario	Electric Circuit (Hydro Quebec)	Time-based	$0.283/min	75	50 kW	https://lecircuitelectrique.com/en/stations/fast-charge-station/
Quebec	Electric Circuit (Hydro Quebec)	Time-based	$0.1963/min	225	50 kW	https://lecircuitelectrique.com/en/stations/fast-charge-station/
Various	Canadian Tire / Electrify Canada	Time-based, tiered by power level	< 75 kW: $0.27/min < 125 kW: $0.77/min < 350 kW = $1.07/min Idling fee = $0.40/min	24	50 kW; 150 kW; 350 kW	https://www.electrify-canada.ca/pricing/
Various	Petro-Canada	Time-based	AB: $0.33/min BC: $0.27/min MB: $0.33/min NB: $0.25/min NS: $0.25/min ON: $0.33/min QC: $0.20/min SK: $0.33/min	~100	100 – 350 kW	https://www.petro-canada.ca/en/personal/fuel/canadas-electric-highway

As part of its Annual Reviews under the MRP, FBC will provide information on its EV DCFC service program, and will incorporate RS 96 into any Cost of Service Analysis conducted after 2020.

3.4 *EV REVENUES VERSUS COST OF SERVICE AND RATE IMPACT ASSESSMENT*

Due to the levelized nature of the rate, there will be some (early) years where the EV charging revenue will be less than the cost of service. In these years, all other FBC customers will bear the costs in excess of revenues. Conversely, in years where the charging revenue is greater than the cost of service, all other FBC customers will benefit from the excess of revenues.

To determine fair, reasonable and stable EV charging rates FBC must forecast future charging usage at the stations. The forecast of use, in minutes, at the stations is the billing determinant used to calculate the EV charging rates. FBC has provided a sensitivity analysis below to highlight the impact that varying levels of use have on the resulting rate.

To assess the potential impact of FBC's proposed EV charging rates on FBC's other electric customers, the Company analysed cases where the actual EV usage differs from the forecasted usage used to determine the proposed EV charging rates.

The sensitivity analysis below examines the rate impact to other FBC electricity customers if actual EV usage varies by +/- 10 percent and +/- 25 percent from the forecast embedded in the financial models. The table below shows that even if actual EV usage was 25 percent lower than forecast, the rate impact to other FBC customers is low for both stations at 0.033 percent and 0.010 percent.

Table 3-4: Rate Impact Sensitivity

	EV Usage 25% Lower	EV Usage 10% Lower	EV Usage 10% Higher	EV Usage 25% Higher
Rate Impact to Other FBC Customers 50 kW Station	0.033%	0.013%	-0.013%	-0.033%
Rate Impact to Other FBC Customers 100 kW Station	0.010%	0.004%	-0.004%	-0.010%

3.5 *ELECTRIC TARIFF RATE SCHEDULE 96*

FBC proposes that RS 96, Electric Vehicle Charging, currently in the Electric Tariff as approved on an interim basis, be made permanent rate incorporating the updated charge for the 50 kW stations and the newly developed 100 kW station charge as provided in the Application.

RS 96 will be available for electric vehicle charging at FBC-owned charging stations and includes the rate per minute of charging for electric vehicle charging customers, with the provision that the

actual amount billed will be pro-rated based on the number of seconds that the vehicle is plugged in.

RS 96 also sets out the terms for billing and payment which differ from FBC's other rate schedules and terms and conditions. Customers taking service under RS 96 are billed and will make payment at the time of charging.

As the calculation of the RS 96 rates include a forecast of annual rate increases for RS 21 and inflation for both O&M and Property Taxes, RS 96 will be excluded from annual revenue requirement related increases.

FBC's proposed RS 96 is included as Appendix B. No other changes to FBC's Electric Tariff are required.

4. REGULATORY TREATMENT OF FBC'S EV DCFC STATIONS

As discussed in Section 1.2.1, FBC has 23 EV charging stations already constructed and open to the public. The capital and all other costs, revenues and contributions (CIAC) for these stations a being accounted for outside of FBC's regulated rate base. With this Application, FBC proposes to account for the existing stations and all future stations[11] in FBC's regulated rate base and book of accounts. As discussed in Section 2, all of the stations that FBC has already constructed are in the class of prescribed undertakings set out in section 5 of the GGRR. Upon approval of this Application, FBC will account for the net book value of these stations and the net book value of the CIAC received for these stations in rate base. The following table sets out the approximate net book value of the existing EV station charging assets and approximate net book value of contributions received as at December 31, 2020.

Table 4-1: EV Charging Assets and CIAC (approximate book value 12/31/2020)

$ million	Gross Value	Accumulated Depreciation/ Amortization	Net Book Value
EV Charging Assets	3.52	(0.28)	3.24
CIAC	(1.27)	0.11	(1.16)
Total	**2.25**	**(0.17)**	**2.08**

While the above values are approximate and reflective of December 31, 2020 balances, FBC will include actual values into rate base once this Application is approved.

Each year over the term of the MRP, FBC will forecast the capital expenditures and capital additions entering rate base for EV charging stations that are planned to be constructed in the test year, including the associated depreciation, amortization, earned return, taxes and any other related costs. As approved for FBC's Clean Growth Initiatives, O&M related to the provision of EV charging will be included as forecast O&M (outside of index-based O&M). As noted above, the monetization and amortization of carbon credits will be forecast each test year as Other Revenue. Finally, revenue from EV charging (RS 96) will be forecast as a component of Tariff Revenue in FBC's financial schedules.

FBC recognizes that since 2018, both expenses and revenues have been accounted for in its non-regulated books. When FBC receives approval of this Application, as discussed above, the assets associated with the EV charging stations, and related revenues and expenses, will be reflected in FBC's regulated accounts.

As described above, over the term of the MRP, FBC will forecast costs and revenues associated with EV charging in each Annual Review. The costs and revenues associated with the provision

[11] The FBC-owned EV stations that will be transferred to BC Hydro will not be included, however the stations that FBC will be receiving from BC Hydro will form part of FBC's rate base.

of EV charging will be afforded flow-through treatment. This means that any variances between forecast and actual costs associated with the EV charging service will be accounted for in FBC's existing Flow-through deferral account. This is consistent with the treatment approved by the BCUC in its Decision attached to Orders G-165-20 and G-166-20 in which at page 73 the Panel stated,

> Subject to approval by the BCUC for inclusion of FBC's EV charging stations in rate base, the Panel approves FBC's request to forecast costs associated with EV charging stations and to record the related forecast cost of service variances in the Flow-through deferral account. The Panel also approves flow-through treatment for revenues related to EV Charging stations.

FBC has not included a forecast of any of the above items in its Annual Review for 2020 and 2021 rates and does not expect a decision on this Application in time to include the EV Charging Stations in 2021 Rates. Therefore, FBC will begin to account for the above costs in rate base and its regulated books in 2022. Consequently, the variances between forecast (of zero) and actuals for 2021 will be accounted for in the Flow-through Deferral account for 2021[12].

[12] Assuming approval of this Application is received in 2021

5. CONCLUSION

FBC's EV DCFC stations are a prescribed undertaking pursuant to section 5 of the GGRR and section 18 of the *Clean Energy Act*. As demonstrated in Section 2 of this Application, each station meets the criteria for the class of prescribed undertakings described in section 5 of the GGRR. As such, FBC's request that the book value of its existing EV DCFC stations be included in rate base, as set out in Section 4 of this Application, should be approved.

FBC proposes permanent rates of $0.27 per minute for 50 kW DCFC Service and $0.54 per minute for 100 kW DCFC service. As shown in Section 3 of this Application, these rates recover FBC's cost of service on a levelized basis and will support the growth and development of EV use in its service territory. FBC submits that its proposed DCFC Service tariff and the proposed rates are appropriate and should be approved on a permanent basis.

Appendix A
ORDER IN COUNCIL (OIC) 339

PROVINCE OF BRITISH COLUMBIA

ORDER OF THE LIEUTENANT GOVERNOR IN COUNCIL

Order in Council No. 339 *, Approved and Ordered* June 22, 2020

Lieutenant Governor

Executive Council Chambers, Victoria

On the recommendation of the undersigned, the Lieutenant Governor, by and with the advice and consent of the Executive Council, orders that the Greenhouse Gas Reduction (Clean Energy) Regulation, B.C. Reg. 102/2012, is amended as set out in the attached Schedule.

Minister of Energy, Mines and Petroleum Resources

Presiding Member of the Executive Council

(This part is for administrative purposes only and is not part of the Order.)

Authority under which Order is made:

Act and section: *Clean Energy Act*, S.B.C. 2010, c. 22, s. 35 (n)

Other: OIC 295/2012

R10362917

SCHEDULE

1 The Greenhouse Gas Reduction (Clean Energy) Regulation, B.C. Reg. 102/2012, is amended by adding the following section:

Prescribed undertaking – electric vehicle charging stations

5 (1) In this section:

"eligible charging site" means a site where one or more eligible charging stations are located;

"eligible charging station" means a fast charging station that

(a) is available for use 24 hours a day by any member of the public,

(b) does not require users to be members of a charging network, and

(c) is capable of charging electric vehicles of more than one make;

"fast charging station" means a fixed device capable of charging an electric vehicle using a direct current;

"limited municipality" means a municipality with a population of 9 000 or more;

"site limit", in relation to a limited municipality, means the number calculated by

(a) dividing the population of the municipality by 9 000, and

(b) if applicable, rounding the quotient up to the nearest whole number.

(2) A public utility's undertaking that is in a class defined as follows is a prescribed undertaking for the purposes of section 18 of the Act:

(a) the public utility constructs and operates, or purchases and operates, an eligible charging station;

(b) the public utility reasonably expects, on the date the public utility decides to construct or purchase an eligible charging station, that

(i) the station will come into operation by December 31, 2025, and

(ii) if the station will be located in a limited municipality, the number of eligible charging sites in the municipality on the date the station will come into operation will not exceed the site limit for the municipality on that date;

(c) if an eligible charging station comes into operation on or after January 1, 2022, the station uses or is configured to use the Open Charge Point Protocol.

Appendix B

PROPOSED RATE SCHEDULE 96 REVISIONS - BLACKLINED

RATE SCHEDULE 96 – ELECTRIC VEHICLE CHARGING

APPLICABLE: Available for electric vehicle charging at FortisBC-owned Direct Current Fast Charging stations.

RATE:

For 50 kW charging stations:

$0.27 per minute.

For 100 kW charging stations:

$0.54 per minute.

The rate is pro-rated on a per-second basis based on the time that a vehicle is plugged in.

NOTE: Customers taking service under this Rate Schedule will be billed and make payment at the time of charging.

The rate for electric vehicle charging will be reviewed on a periodic basis.

INTERIM RATE ESTABLISHMENT: Pursuant to the British Columbia Utilities Commission Order G-9-18, rates under this schedule are set on an interim basis for consumption on and after January 12, 2018, until such time as a decision on FortisBC Inc.'s Electric Vehicle Fast Charging Service Application is issued.

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Deleted: Doug Slater, Director
Deleted: January 12, 2018 (Interim)
Deleted: June 26, 2019
Deleted: *Original signed by Patrick Wruck*
Deleted: Original

Appendix C
DRAFT FINAL ORDER

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ORDER NUMBER
G-xx-xx

IN THE MATTER OF
the *Utilities Commission Act*, RSBC 1996, Chapter 473

and

FortisBC Inc.
Application for Approval of Rate Design and Rates for
Electric Vehicle Direct Current Fast Charging Service

BEFORE:
[Panel Chair]
Commissioner
Commissioner

on Date

ORDER

WHEREAS:

A. On December 22, 2017, FortisBC Inc. (FBC) submitted an application to the British Columbia Utilities Commission (BCUC) for Approval of Rate Design and Rates for Electric Vehicle (EV) Direct Current Fast Charging (DCFC) Service and Tariff Rate Schedule 96 (Original Application) pursuant to sections 59 to 61 and 90 of the *Utilities Commission Act* (UCA);

B. On January 12, 2018, the BCUC issued Order G-9-18 and the associated Reasons for Decision that approved Rate Schedule 96 as set out in the Original Application on an interim basis, and adjourned the regulatory process until further notice;

C. By Order G-10-18 dated January 12, 2018, the BCUC established an inquiry (Inquiry) into the regulation of EV charging service in British Columbia. The Inquiry was undertaken in two phases. On June 24, 2019, the BCUC issued the final report on the Inquiry. In that report, the Panel reviewed the role of the non-exempt public utility's participation in the EV charging market, and made recommendations to the Provincial Government concerning the regulatory framework for these non-exempt public utilities;

D. By Order in Council No. 339 (OIC 339/20), as approved and issued on June 22, 2020, the Lieutenant Governor in Council amended the Greenhouse Gas Reduction (Clean Energy) Regulation (GGRR) to add Section 5 regarding prescribed undertaking – electric vehicle charging stations;

E. By Order G-223-20, dated August 28, 2020, the BCUC established an amended regulatory timetable for the review of the Original Application including for FEI to file an evidentiary update to the Original Application;

F. On September 30, 2020, FBC withdrew its Original Application and submitted a Revised and Updated Application (Application), including evidence showing that all of FBC's existing and planned EV charging stations are prescribed undertakings pursuant to section 18 of the *Clean Energy Act* and section 5 of the GGRR, and requested the following approvals pursuant to sections 59 to 61 of the UCA:

   i. permanent approval of Rate Schedule 96 for EV charging at FBC-owned EV charging stations, consisting of a rate of $0.27 per minute for 50 kW stations and $0.54 per minute at 100 kW stations, as set out in Attachment B of the Application;

   ii. approval that Rate Schedule 96 shall not be subject to general rate increases, unless otherwise directed by the BCUC;

   iii. approval of a straight line 10 percent depreciation rate for FBC's EV charging stations; and

   iv. approval for FBC to include the assets associated with the EV charging stations, and related revenues and expenses, in FBC's regulated accounts, as set out in Section 4 of the Application.

G. By Order G-xxx-20 the BCUC established a written hearing process for review of the Application; and

H. The BCUC has reviewed and considered the Application and determines that the requested approvals should be granted.

NOW THEREFORE the BCUC orders as follows:

1. Electric Tariff Rate Schedule 96 for EV charging as set out in Appendix B of the Application is approved as filed.

2. Rate Schedule 96 will be exempt from general rate increases unless otherwise directed by the BCUC.

3. FBC is approved to include the assets associated with its EV DCFC charging stations, and related revenues and expenses, in FBC's regulated accounts as set out in Section 4 of this Application

4. FBC's proposed straight line 10 percent depreciation rate for FBC-owned EV DCFC charging stations is approved.

5. FBC is directed to comply with all other BCUC Directives as contained in the accompanying Decision.

DATED at the City of Vancouver, in the Province of British Columbia, this (XX) day of (Month Year).

BY ORDER

(X. X. last name)
Commissioner

Appendix D
DRAFT PROCEDURAL ORDER

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ORDER NUMBER
G-xx-xx

IN THE MATTER OF
the *Utilities Commission Act*, RSBC 1996, Chapter 473

and

FortisBC Inc.
Application for Approval of Rate Design and Rates for
Electric Vehicle Direct Current Fast Charging Service

BEFORE:
Panel Chair/Commissioner
Commissioner
Commissioner

on Date

ORDER

WHEREAS:

A. On December 22, 2017, FortisBC Inc. (FBC) submitted an application to the British Columbia Utilities Commission (BCUC) for Approval of Rate Design and Rates for Electric Vehicle (EV) Direct Current Fast Charging (DCFC) Service and Tariff Rate Schedule 96 (Original Application) pursuant to sections 59 to 61 and 90 of the *Utilities Commission Act* (UCA);

B. On January 12, 2018, the BCUC issued Order G-9-18 and the associated Reasons for Decision that approved Rate Schedule 96 as set out in the Original Application on an interim basis, and adjourned the regulatory process until further notice.

C. By Order G-10-18 dated January 12, 2018, the BCUC established an inquiry (Inquiry) into the regulation of EV charging service in British Columbia. The Inquiry was undertaken in two phases. On June 24, 2019, the BCUC issued the final report on the Inquiry. In that report, the Panel reviewed the role of the non-exempt public utility's participation in the EV charging market, and made recommendations to the Provincial Government concerning the regulatory framework for these non-exempt public utilities;

D. By Order in Council No. 339 (OIC 339/20), as approved and issued on June 22, 2020, the Lieutenant Governor in Council amended the Greenhouse Gas Reduction (Clean Energy) Regulation (GGRR) to add Section 5 regarding prescribed undertaking – electric vehicle charging stations;

E. By Order G-223-20, dated August 28, 2020, the BCUC established an amended regulatory timetable for the review of the Original Application including for FEI to file an evidentiary update to the Original Application;

F. On September 30, 2020, FBC withdrew its Original Application and submitted a Revised and Updated Application (Application), including evidence showing that all of FBC's existing and planned EV charging

…/2

stations are prescribed undertakings pursuant to section 18 of the *Clean Energy Act* and section 5 of the GGRR, and requested the following approvals pursuant to sections 59 to 61 of the UCA:

i. permanent approval of Rate Schedule 96 for EV charging at FBC-owned EV charging stations, consisting of a rate of $0.27 per minute for 50 kW stations and $0.54 per minute at 100 kW stations, as set out in Attachment B of the Application;

ii. approval that Rate Schedule 96 shall not be subject to general rate increases, unless otherwise directed by the BCUC;

iii. approval of a straight line 10 percent depreciation rate for FBC's EV charging stations; and

iv. approval for FBC to include the assets associated with the EV charging stations, and related revenues and expenses, in FBC's regulated accounts, as set out in Section 4 of the Application.

G. The BCUC considers that an amendment to the regulatory timetable is warranted.

NOW THEREFORE the BCUC orders as follows:

1. A written public hearing is established for review of the Application according to the amended regulatory timetable established in Appendix A to this order.

2. FBC is to publish notice as set out in Directive 2 of Order G-223-20.

3. Parties who wish to participate as an intervener in this regulatory proceeding must register with the BCUC by completing a Request to Intervene Form, available on the BCUC's website at http://www.bcuc.com/forms/request-to-intervene.aspx, by the date established in the regulatory timetable attached as Appendix A to this order. Parties requesting intervener status are to specifically state the nature of their interest in the Application and identify the issues that they intend to pursue and the extent of their anticipated involvement in the proceeding.

DATED at the City of Vancouver, in the Province of British Columbia, this (XX) day of [Month Year].

BY ORDER

Original signed by:

(X. X. last name)
Commissioner

Attachments

FortisBC Inc.
Application for Approval of Rate Design and Rates for
Electric Vehicle Direct Current Fast Charging Service

REGULATORY TIMETABLE

ACTION	DATE (2020)
FBC to publish and provide notice of the Application and Evidentiary Update	Monday, October 5
Intervener and Interested Party Registration	Friday, October 16
BCUC IR No. 1	Thursday, October 29
Intervener IR No. 1	Thursday, November 5
FBC Response to IR No. 1	Thursday, November 19
FBC Written Final Argument	Thursday, December 3
Intervener Written Final Argument	Thursday, December 17
ACTION	**DATE (2021)**
FBC Written Reply Argument	Thursday, January 7

Appendix E

COST OF SERVICE ANALYSIS AND FINANCIAL SCHEDULES

FortisBC Inc.
EV Charging Stations Review - 50 kW Stations
Schedule 1
September 2020
($000s), unless otherwise stated

Line	Particulars	Reference	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1	**Cost of Service**														
2	Power Purchase		2	7	19	38	46	60	76	94	120	154	164	177	183
3	Operation & Maintenance	Line 27	0	2	26	154	187	191	194	198	191	195	199	203	207
4	Property Taxes	Line 32	-	-	(0)	(3)	2	6	5	4	4	4	3	3	3
5	Depreciation Expense	Line 58	-	60	197	312	401	401	401	401	403	406	409	351	227
6	Amortization Expense on CIAC	Line 71	-	(35)	(70)	(106)	(211)	(211)	(211)	(211)	(211)	(211)	(211)	(211)	(211)
7	Other Revenue - Carbon Credits	-Line 125	(6)	(20)	(57)	(110)	(135)	(171)	(209)	(252)	(312)	(390)	(402)	(421)	(425)
8	NRCan Repayment	Line 149	-	-	193	36	-	-	-	-	-	-	-	-	208
9	Income Taxes	Line 111	(9)	(361)	(220)	143	81	81	80	77	74	72	70	46	(1)
10	Earned Return	Line 95	6	53	114	123	101	89	77	65	54	43	32	22	19
11	**Incremental Annual Revenue Requirement**	Sum of Line 2 to Line 10	**(6)**	**(295)**	**204**	**585**	**472**	**445**	**411**	**377**	**323**	**272**	**263**	**169**	**209**
12	PV of Revenue Requirement (After-tax WACC of 5.87%)	Line 11 / (1 + Line 97)^Yr	(6)	(263)	172	468	357	318	278	241	195	155	142	86	101
13	**Total PV of Annual Revenue Requirement**	Sum of Line 12	***2,244***												
14															
15	2021 Approved Revenue Requirement (2021 Advanced Materials)		356,340	370,534	370,534	362,255	362,255	362,255	362,255	362,255	362,255	362,255	362,255	362,255	362,255
16	% Increase on 2021 Rate	Line 11 / Line 15	0.00%	-0.08%	0.06%	0.16%	0.13%	0.12%	0.11%	0.10%	0.09%	0.08%	0.07%	0.05%	0.06%
17															
18	PV of Annual 2021 Approved Revenue Requirement	Line 15 / (1 + Line 97)^Yr	336,571	330,470	313,177	289,519	273,743	258,826	244,722	231,387	218,779	206,857	195,585	184,928	174,851
19	Total PV of 2021 Approved Revenue Requirement	Sum of Line 18	3,259,414												
20	**Levelized % Increase (13 yrs) on 2021 Rate**	**Line 13 / Line 19**	**0.07%**												
21															
22	**Operation & Maintenance**														
23	Labour Costs		-	-	-	53	64	65	66	68	69	71	72	73	75
24	Non-Labour Costs		0	2	26	101	123	125	128	131	122	124	127	129	132
25	Total Gross O&M Expenses	Line 23 + Line 24	0	2	26	154	187	191	194	198	191	195	199	203	207
26	Less: Capitalized Overhead	Overhead Rate of 0%	-	-	-	-	-	-	-	-	-	-	-	-	-
27	**Net O&M Expenses**	Line 25 + Line 26	0	2	26	154	187	191	194	198	191	195	199	203	207
28															
29	**Property Taxes**														
30	General, School and Other		-	-	-	-	-	-	-	-	-	-	-	-	-
31	1% in Lieu of General Municipal Tax[1]	1% of Line 11	-	-	(0)	(3)	2	6	5	4	4	4	3	3	3
32	**Total Property Taxes**	Line 30 + Line 31	-	-	(0)	(3)	2	6	5	4	4	4	3	3	3
33	1 - Calculation is based on the second preceding year, e.g. 2020 is based on 2018 revenue														
34															

FortisBC Inc.
EV Charging Stations Review - 50 kW Stations
Schedule 1
September 2020
($000s), unless otherwise stated

Line	Particulars	Reference	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
35	**Capital Spending**														
36	Project Capital Spending[2]		599	1,644	1,238	965	-	-	-	25	26	26	27	27	28
37	AFUDC		-	-	37	29	-	-	-	-	-	-	-	-	-
38	Total Annual Capital Spending & AFUDC	Sum of Line 36 to 39	599	1,644	1,274	994	-	-	-	25	26	26	27	27	28
39	Cost of Removal		-	-	-	-	-	-	-	-	-	-	-	-	-
40	Contributions in Aid of Construction (CIAC)		(423)	(415)	(434)	(1,251)	-	-	-	-	-	-	-	-	-
41	Total Annual Project Cost - Capital	Line 38 + Line 39	176	1,229	840	(257)	-	-	-	25	26	26	27	27	28
42															
43	**Total Project Cost (incl. AFUDC)**	**Sum of Line 38**	**4,669**												
44	**Net Project Cost (incl. Removal and/or CIAC)**	**Sum of Line 41**	**2,146**												
45	2 - Excluding capitalized overhead; First year of analysis includes all prior year spending														
46															
47	**Gross Plant in Service (GPIS)**														
48	GPIS - Beginning[3]	Preceding Year, Line 52	-	599	2,243	3,517	4,511	4,511	4,511	4,511	4,536	4,562	4,588	4,015	2,770
49	Additions to Plant[4]		599	1,644	1,274	994	-	-	-	25	26	26	27	27	28
50	Retirements		-	-	-	-	-	-	-	-	-	-	(599)	(1,272)	(1,092)
51	Net Addition to Plant	Sum of Line 49 to 50	599	1,644	1,274	994	-	-	-	25	26	26	(572)	(1,245)	(1,065)
52	GPIS - Ending	Line 48 + Line 51	599	2,243	3,517	4,511	4,511	4,511	4,511	4,536	4,562	4,588	4,015	2,770	1,705
53	3 - Consistent with treatment of CPCN, additions (when work complete and placed in-service) is shown in the opening balance of plant on Jan 1 of following year)														
54	4 - Includes capitalized overhead														
55															
56	**Accumulated Depreciation**														
57	Accumulated Depreciation - Beginning	Preceding Year, Line 60	-	-	(60)	(257)	(569)	(970)	(1,371)	(1,772)	(2,173)	(2,577)	(2,983)	(2,792)	(1,872)
58	Depreciation Expense[5]	Line 48 @ 8.37%	-	(60)	(197)	(312)	(401)	(401)	(401)	(401)	(403)	(406)	(409)	(351)	(227)
59	Retirements		-	-	-	-	-	-	-	-	-	-	599	1,272	1,092
60	Accumulated Depreciation - Ending	Sum of Line 57 to 59	-	(60)	(257)	(569)	(970)	(1,371)	(1,772)	(2,173)	(2,577)	(2,983)	(2,792)	(1,872)	(1,006)
61	5 - Depreciation & Amortization Expense calculation is based on opening balance x composite depreciation rate; The composite rate of all assets addition to plant is 8.37%														
62															
63	**Contributions in Aid of Construction (CIAC)**														
64	CIAC - Beginning	Preceding Year, Line 67	-	(423)	(838)	(1,272)	(2,523)	(2,523)	(2,523)	(2,523)	(2,523)	(2,523)	(2,523)	(2,523)	(2,523)
65	Additions		(423)	(415)	(434)	(1,251)	-	-	-	-	-	-	-	-	-
66	Retirements		-	-	-	-	-	-	-	-	-	-	-	-	423
67	CIAC - Ending	Sum of Line 64 to 66	(423)	(838)	(1,272)	(2,523)	(2,523)	(2,523)	(2,523)	(2,523)	(2,523)	(2,523)	(2,523)	(2,523)	(2,100)
68															
69	**Accumulated Amortization of Contributions in Aid of Construction (CIAC)**														
70	Accumulated Amortization of CIAC - Beginning	Preceding Year, Line 73	-	-	35	106	212	423	634	846	1,057	1,268	1,479	1,690	1,902
71	Amortization (over 11.95 yrs)	Line 64 @ 8.37%	-	35	70	106	211	211	211	211	211	211	211	211	211
72	Retirements		-	-	-	-	-	-	-	-	-	-	-	-	(423)
73	Accumulated Amortization of CIAC - Ending	Sum of Line 70 to 72	-	35	106	212	423	634	846	1,057	1,268	1,479	1,690	1,902	1,690
74															

FortisBC Inc.
EV Charging Stations Review - 50 kW Stations
Schedule 1
September 2020
($000s), unless otherwise stated

Line	Particulars	Reference	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
75	**Rate Base and Earned Return**														
76	Gross Plant in Service - Beginning	Line 48	-	599	2,243	3,517	4,511	4,511	4,511	4,511	4,536	4,562	4,588	4,015	2,770
77	Gross Plant in Service - Ending	Line 52	599	2,243	3,517	4,511	4,511	4,511	4,511	4,536	4,562	4,588	4,015	2,770	1,705
78															
79	Accumulated Depreciation - Beginning	Line 57	-	-	(60)	(257)	(569)	(970)	(1,371)	(1,772)	(2,173)	(2,577)	(2,983)	(2,792)	(1,872)
80	Accumulated Depreciation - Ending	Line 60	-	(60)	(257)	(569)	(970)	(1,371)	(1,772)	(2,173)	(2,577)	(2,983)	(2,792)	(1,872)	(1,006)
81															
82	CIAC - Beginning	Line 64	-	(423)	(838)	(1,272)	(2,523)	(2,523)	(2,523)	(2,523)	(2,523)	(2,523)	(2,523)	(2,523)	(2,523)
83	CIAC - Ending	Line 67	(423)	(838)	(1,272)	(2,523)	(2,523)	(2,523)	(2,523)	(2,523)	(2,523)	(2,523)	(2,523)	(2,523)	(2,100)
84															
85	Accumulated Amortization of CIAC - Beginning	Line 70	-	-	35	106	212	423	634	846	1,057	1,268	1,479	1,690	1,902
86	Accumulated Amortization of CIAC - Ending	Line 73	-	35	106	212	423	634	846	1,057	1,268	1,479	1,690	1,902	1,690
87															
88	Net Plant in Service, Mid-Year	(Sum of Lines 76 to Line 86) / 2	88	778	1,737	1,862	1,536	1,346	1,156	979	813	645	476	334	283
89	Adjustment to 13-month average	[6]	-	-	-	-	-	-	-	-	-	-	-	-	-
90	Cash Working Capital	Line 52 x FBC CWC/Closing GPIS %	2	7	10	13	13	13	13	13	13	13	12	8	5
91	**Total Rate Base**	**Sum of Line 88 to 90**	**90**	**785**	**1,747**	**1,875**	**1,549**	**1,359**	**1,170**	**992**	**827**	**659**	**487**	**342**	**288**
92															
93	Equity Return	Line 91 x ROE x Equity %	3	29	64	69	57	50	43	36	30	24	18	13	11
94	Debt Component	[7]	3	24	50	54	45	39	34	29	24	19	14	10	8
95	**Total Earned Return**	**Line 93 + Line 94**	**6**	**53**	**114**	**123**	**101**	**89**	**77**	**65**	**54**	**43**	**32**	**22**	**19**
96	Return on Rate Base %	Line 95 / Line 91	6.69%	6.71%	6.54%	6.54%	6.54%	6.54%	6.54%	6.54%	6.54%	6.54%	6.54%	6.54%	6.54%
97	After- Tax Weighted Average Cost of Capital (WACC)	[8]	5.87%	5.89%	5.77%	5.76%	5.76%	5.76%	5.76%	5.76%	5.76%	5.76%	5.76%	5.76%	5.76%
98	6 - (Line 51 + Line 58 + Line 65) x [(Days In-service/365)-1/2]														
99	7 - Line 91 x (LTD Rate x LTD% + STD Rate x STD %)														
100	8 - ROE Rate x Equity Component + [(STD Rate x STD Portion) + (LTD Rate x LTD Portion)] x (1- Income Tax Rate)]														
101															

FortisBC Inc.
EV Charging Stations Review - 50 kW Stations
Schedule 1
September 2020
($000s), unless otherwise stated

Line	Particulars	Reference	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
102	**Income Tax Expense**														
103	Earned Return	Line 95	6	53	114	123	101	89	77	65	54	43	32	22	19
104	Deduct: Interest on debt	Line 94	(3)	(24)	(50)	(54)	(45)	(39)	(34)	(29)	(24)	(19)	(14)	(10)	(8)
105	Add: Depreciation Expense	Line 58	-	60	197	312	401	401	401	401	403	406	409	351	227
106	Deduct: CIAC Amortization	Line 71	-	(35)	(70)	(106)	(211)	(211)	(211)	(211)	(211)	(211)	(211)	(211)	(211)
107	Deduct: Capital Cost Allowance	Line 119 (Include CCA from 2018)	(26)	(1,028)	(785)	112	(27)	(21)	(17)	(18)	(22)	(25)	(27)	(28)	(30)
108	Taxable Income After Tax	Sum of Line 103 to 107	(23)	(975)	(594)	386	219	218	215	208	200	194	188	124	(3)
109	Income Tax Rate		27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%	27%
110															
111	**Total Income Tax Expense**	Line 108 / (1 - Line 109) x Line 109	**(9)**	**(361)**	**(220)**	**143**	**81**	**81**	**80**	**77**	**74**	**72**	**70**	**46**	**(1)**
112															
113	**Capital Cost Allowance**														
114	Opening Balance	Proceeding Year, Line 120	-	150	350	369	195	168	146	129	136	139	140	140	138
115	Additions to Plant	Line 38	599	1,644	1,274	994	-	-	-	25	26	26	27	27	28
116	Less: AFUDC	Line 37	-	-	(37)	(29)	-	-	-	-	-	-	-	-	-
117	Less: CIAC	Line 40	(423)	(415)	(434)	(1,251)	-	-	-	-	-	-	-	-	-
118	Net Addition for CCA	Sum of Line 115 through 117	176	1,229	804	(286)	-	-	-	25	26	26	27	27	28
119	**CCA**	**[Line 114 + (Line 118/2)] x CCA Rate**	**(26)**	**(1,028)**	**(785)**	**112**	**(27)**	**(21)**	**(17)**	**(18)**	**(22)**	**(25)**	**(27)**	**(28)**	**(30)**
120	Closing Balance	Line 114 + Line 118 + Line 119	150	350	369	195	168	146	129	136	139	140	140	138	136
121															
122	**Carbon Credit**														
123	Credit (Tonne)		31	99	283	549	677	853	1,047	1,259	1,559	1,951	2,009	2,107	2,123
124	Carbon Price ($/tonne)		200	200	200	200	200	200	200	200	200	200	200	200	200
125	Carbon Credit Revenue ($)	Line 123 x Line 124	6	20	57	110	135	171	209	252	312	390	402	421	425
126															

FortisBC Inc.
EV Charging Stations Review - 50 kW Stations
Schedule 1
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Line	Particulars	Reference	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
127	**NR Can Repayment**														
128	Revenue	NR Can Stations Usage x Schedule 2, Line 15	-	9	58	132	177	237	304	377	481	616	734	773	779
129															
130	Expenses														
131	Cost of Electricity	NR Can Stations	-	8	47	154	173	194	216	239	269	309	321	336	344
132	Operation & Maintenance	NR Can Stations	-	2	17	110	143	146	149	152	146	149	152	155	158
133	Property Taxes	NR Can Stations	-	-	-	(3)	2	5	4	4	3	3	3	2	2
134	Depreciation Expense	NR Can Stations	-	-	138	242	331	331	331	331	333	336	338	341	217
135	Amortization Expense on CIAC	NR Can Stations	-	-	(35)	(71)	(176)	(176)	(176)	(176)	(176)	(176)	(176)	(176)	(176)
136	Other Revenue - Carbon Credits	NR Can Stations	-	(8)	(37)	(84)	(104)	(131)	(160)	(192)	(238)	(298)	(307)	(322)	(325)
137	Total Expenses	Sum of Lines 131 through 136	-	2	130	348	370	368	364	356	338	323	331	336	221
138															
139	Operating Income	Line 128 - Line 137	-	7	(72)	(216)	(193)	(131)	(60)	21	143	293	403	437	559
140	Interest	NR Can Stations	-	19	47	48	39	35	30	26	22	18	15	11	8
141	Earnings Before income taxes	Line 139 - Line 140	-	(12)	(119)	(263)	(232)	(166)	(90)	(5)	121	275	389	426	551
142	Income tax (recovery)	NR Can Stations	-	(355)	(183)	135	72	70	68	65	62	60	58	56	9
143	Net Earnings	Line 141 - Line 142	-	344	64	(398)	(304)	(236)	(158)	(70)	59	215	331	370	542
144															
145	Cumulative Net Earnings	Cumulative Sum of Line 143	-	344	408	10	(294)	(530)	(688)	(758)	(700)	(484)	(154)	216	758
146	Repayment to Canada (True/False)	If both Line 143 & 145 are positive, then TRUE	FALSE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	TRUE
147															
148	Repayment Ratio	NR Can funding as ratio of Capital	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%	56%
149	Repayment Amount	If Line 146 = TRUE, then Line 148 x Line 143	-	193	36	-	-	-	-	-	-	-	-	208	305

FortisBC Inc.
EV Charging Stations Review - 50 kW Stations
Schedule 2
September 2020
($000s), unless otherwise stated

Line	Particulars	Reference	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1															
2	Incremental Annual Revenue Requirement	Cost of Service, Line 11	(6)	(295)	204	585	472	445	411	377	323	272	263	169	209
3	Subtract: FBC Power Purchase	-1 x Cost of Service, Line 2	(2)	(7)	(19)	(38)	(46)	(60)	(76)	(94)	(120)	(154)	(164)	(177)	(183)
4	Add: FBC Commercial Service Rate (RS 21)		10	20	69	189	213	239	269	297	337	389	404	423	434
5	Total Annual Revenue Requirement from EV Customer	Sum of Line 2 to Line 4	1	(282)	254	737	639	624	604	580	541	507	503	416	460
6	PV of Revenue Requirement (After-tax WACC of 5.87%)	Line 2 / (1 + Line 20)^Yr	1	(251)	214	589	483	446	408	371	327	290	271	212	222
7	**Total PV of Annual Revenue Requirement**	Sum of Line 6	***3,583***												
8															
9															
10	***Levelized $ per Minute Rate***														
11	Number of Charging Minutes per Year		15,309	94,386	393,881	762,328	1,017,534	1,367,578	1,752,476	2,172,980	2,770,262	3,549,084	4,226,548	4,450,967	4,488,370
12	PV of Charging Minutes per year	Line 11 / (1 + Line 20)^Yr	14,459	84,181	332,910	609,262	768,913	977,115	1,183,890	1,387,972	1,673,059	2,026,620	2,281,957	2,272,174	2,166,414
13	Total PV of Charging Minutes per year	**Sum of Line 12**	**15,778,924**												
14															
15	Levelized $ per minute rate to recover Cost of Service	Line 7 x 1,000 / Line 13	0.23												
16	Transaction Fee Percentage		15%												
17	Levelized $ per minute rate (incl. Trans Fee)	Line 15 / (1 - Line 16)	**0.27**												
18															
19															
20	After- Tax Weighted Average Cost of Capital (WACC)	[1]	5.87%	5.89%	5.77%	5.76%	5.76%	5.76%	5.76%	5.76%	5.76%	5.76%	5.76%	5.76%	5.76%
21	1 - ROE Rate x Equity Component + [(STD Rate x STD Portion) + (LTD Rate x LTD Portion)] x (1- Income Tax Rate)]														

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Line	Particulars	Reference	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1	**Cost of Service**											
2	Power Purchase		6	8	11	13	17	21	27	35	44	48
3	Operation & Maintenance	Line 27	16	33	34	34	35	34	34	35	36	36
4	Property Taxes	Line 32	-	-	(1)	1	1	1	1	0	0	0
5	Depreciation Expense	Line 58	-	65	65	65	65	65	65	65	65	65
6	Amortization Expense on CIAC	Line 71	-	(40)	(40)	(40)	(40)	(40)	(40)	(40)	(40)	(40)
7	Other Revenue - Carbon Credits	- Line 125	(18)	(24)	(30)	(37)	(44)	(55)	(69)	(86)	(104)	(111)
8	NR Can Repayment	Line 149	-	32	-	-	-	-	-	-	-	91
9	Income Taxes	Line 111	(80)	12	11	11	11	11	10	10	10	10
10	Earned Return	Line 95	9	17	16	14	12	11	9	8	6	4
11	**Annual Revenue Requirement**	Sum of Line 2 to Line 10	**(67)**	**103**	**65**	**62**	**56**	**47**	**38**	**27**	**16**	**104**
12	PV of Revenue Requirement (After-tax WACC of 5.76%)	Line 11 / (1 + Line 97)^Yr	(63)	92	55	49	42	33	25	17	10	59
13	**Total PV of Annual Revenue Requirement**	Sum of Line 12	***320***									
14												
15	2021 Approved Revenue Requirement (2021 Advanced Materials)		362,255	362,255	362,255	362,255	362,255	362,255	362,255	362,255	362,255	362,255
16	% Increase on 2021 Rate	Line 11 / Line 15	-0.02%	0.03%	0.02%	0.02%	0.02%	0.01%	0.01%	0.01%	0.00%	0.03%
17												
18	PV of Annual 2021 Approved Revenue Requirement	Line 15 / (1 + Line 97)^Yr	342,515	323,851	306,204	289,519	273,743	258,826	244,722	231,387	218,779	206,857
19	Total PV of 2021 Approved Revenue Requirement	Sum of Line 18	2,696,403									
20	**Levelized % Increase (10 yrs) on 2021 Rate**	**Line 13 / Line 19**	**0.01%**									
21												
22	**Operation & Maintenance**											
23	Labour Costs		6	11	12	12	12	12	12	13	13	13
24	Non-Labour Costs		11	22	22	23	23	21	22	22	23	23
25	Total Gross O&M Expenses	Line 23 + Line 24	16	33	34	34	35	34	34	35	36	36
26	Less: Capitalized Overhead	Overhead Rate of 0%	-	-	-	-	-	-	-	-	-	-
27	**Net O&M Expenses**	Line 25 + Line 26	16	33	34	34	35	34	34	35	36	36
28												
29	**Property Taxes**											
30	General, School and Other		-	-	-	-	-	-	-	-	-	-
31	1% in Lieu of General Municipal Tax[1]	1% of Line 11	-	-	(1)	1	1	1	1	0	0	0
32	**Total Property Taxes**	Line 30 + Line 31	-	-	(1)	1	1	1	1	0	0	0
33	1 - Calculation is based on the second preceding year, e.g. 2023 is based on 2021 revenue											
34												

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Line	Particulars	Reference	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
35	**Capital Spending**											
36	Project Capital Spending[2]		725	-	-	-	-	-	-	-	-	-
37	AFUDC		21	-	-	-	-	-	-	-	-	-
38	Total Annual Capital Spending & AFUDC	Sum of Line 36 to 39	746	-	-	-	-	-	-	-	-	-
39	Cost of Removal		-	-	-	-	-	-	-	-	-	-
40	Contributions in Aid of Construction (CIAC)		(450)	-	-	-	-	-	-	-	-	-
41	Total Annual Project Cost - Capital	Line 38 + Line 39	296	-	-	-	-	-	-	-	-	-
42												
43	**Total Project Cost (incl. AFUDC)**	**Sum of Line 38**	**746**									
44	**Net Project Cost (incl. Removal and/or CIAC)**	**Sum of Line 41**	**296**									
45	2 - Excluding capitalized overhead; First year of analysis includes all prior year spending											
46												
47	**Gross Plant in Service (GPIS)**											
48	GPIS - Beginning[3]	Preceding Year, Line 52	-	725	725	725	725	725	725	725	725	725
49	Additions to Plant[4]		725	-	-	-	-	-	-	-	-	-
50	Retirements		-	-	-	-	-	-	-	-	-	-
51	Net Addition to Plant	Sum of Line 49 to 50	725	-	-	-	-	-	-	-	-	-
52	GPIS - Ending	Line 48 + Line 51	725	725	725	725	725	725	725	725	725	725
53	3 - Consistent with treatment of CPCN, additions (when work complete and placed in-service) is shown in the opening balance of plant on Jan 1 of following year)											
54	4 - Includes capitalized overhead											
55												
56	**Accumulated Depreciation**											
57	Accumulated Depreciation - Beginning	Preceding Year, Line 60	-	-	(65)	(130)	(195)	(260)	(325)	(390)	(455)	(520)
58	Depreciation Expense[5]	Line 48 @ 8.97%	-	(65)	(65)	(65)	(65)	(65)	(65)	(65)	(65)	(65)
59	Retirements		-	-	-	-	-	-	-	-	-	-
60	Accumulated Depreciation - Ending	Sum of Line 57 to 59	-	(65)	(130)	(195)	(260)	(325)	(390)	(455)	(520)	(585)
61	5 - Depreciation & Amortization Expense calculation is based on opening balance x composite depreciation rate; The composite rate of all assets addition to plant is 8.97%											
62												
63	**Contributions in Aid of Construction (CIAC)**											
64	CIAC - Beginning	Preceding Year, Line 67	-	(450)	(450)	(450)	(450)	(450)	(450)	(450)	(450)	(450)
65	Additions		(450)	-	-	-	-	-	-	-	-	-
66	Retirements		-	-	-	-	-	-	-	-	-	-
67	CIAC - Ending	Sum of Line 64 to 66	(450)	(450)	(450)	(450)	(450)	(450)	(450)	(450)	(450)	(450)
68												
69	**Accumulated Amortization of Contributions in Aid of Construction (CIAC)**											
70	Accumulated Amortization of CIAC - Beginning	Preceding Year, Line 73	-	-	40	81	121	161	202	242	283	323
71	Amortization (over 11.15 yrs)	Line 64 @ 8.97%	-	40	40	40	40	40	40	40	40	40
72	Retirements		-	-	-	-	-	-	-	-	-	-
73	Accumulated Amortization of CIAC - Ending	Sum of Line 70 to 72	-	40	81	121	161	202	242	283	323	363
74												

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Line	Particulars	Reference	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
75	**Rate Base and Earned Return**											
76	Gross Plant in Service - Beginning	Line 48	-	725	725	725	725	725	725	725	725	725
77	Gross Plant in Service - Ending	Line 52	725	725	725	725	725	725	725	725	725	725
78												
79	Accumulated Depreciation - Beginning	Line 57	-	-	(65)	(130)	(195)	(260)	(325)	(390)	(455)	(520)
80	Accumulated Depreciation - Ending	Line 60	-	(65)	(130)	(195)	(260)	(325)	(390)	(455)	(520)	(585)
81												
82	CIAC - Beginning	Line 64	-	(450)	(450)	(450)	(450)	(450)	(450)	(450)	(450)	(450)
83	CIAC - Ending	Line 67	(450)	(450)	(450)	(450)	(450)	(450)	(450)	(450)	(450)	(450)
84												
85	Accumulated Amortization of CIAC - Beginning	Line 70	-	-	40	81	121	161	202	242	283	323
86	Accumulated Amortization of CIAC - Ending	Line 73	-	40	81	121	161	202	242	283	323	363
87												
88	Net Plant in Service, Mid-Year	(Sum of Lines 76 to Line 86) / 2	137	262	238	213	188	164	139	114	90	65
89	Adjustment to 13-month average	[6]	-	-	-	-	-	-	-	-	-	-
90	Cash Working Capital	Line 52 x FBC CWC/Closing GPIS %	2	2	2	2	2	2	2	2	2	2
91	**Total Rate Base**	**Sum of Line 88 to 90**	**139**	**264**	**240**	**215**	**190**	**166**	**141**	**117**	**92**	**67**
92												
93	Equity Return	Line 91 x ROE x Equity %	5	10	9	8	7	6	5	4	3	2
94	Debt Component	[7]	4	8	7	6	5	5	4	3	3	2
95	**Total Earned Return**	**Line 93 + Line 94**	**9**	**17**	**16**	**14**	**12**	**11**	**9**	**8**	**6**	**4**
96	Return on Rate Base %	Line 95 / Line 91	6.54%	6.54%	6.54%	6.54%	6.54%	6.54%	6.54%	6.54%	6.54%	6.54%
97	After- Tax Weighted Average Cost of Capital (WACC)	[8]	5.76%	5.76%	5.76%	5.76%	5.76%	5.76%	5.76%	5.76%	5.76%	5.76%
98	6 - (Line 51 + Line 58 + Line 65) x [(Days In-service/365)-1/2]											
99	7 - Line 91 x (LTD Rate x LTD% + STD Rate x STD %)											
100	8 - ROE Rate x Equity Component + [(STD Rate x STD Portion) + (LTD Rate x LTD Portion)] x (1- Income Tax Rate)]											
101												

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Line	Particulars	Reference	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
102	**Income Tax Expense**											
103	Earned Return	Line 95	9	17	16	14	12	11	9	8	6	4
104	Deduct: Interest on debt	Line 94	(4)	(8)	(7)	(6)	(5)	(5)	(4)	(3)	(3)	(2)
105	Add: Depreciation Expense	Line 58	-	65	65	65	65	65	65	65	65	65
106	Deduct: CIAC Amortization	Line 71	-	(40)	(40)	(40)	(40)	(40)	(40)	(40)	(40)	(40)
107	Deduct: Capital Cost Allowance	Line 119 (Include CCA from 2018)	(221)	(3)	(2)	(2)	(2)	(2)	(2)	(2)	(1)	(1)
108	Taxable Income After Tax	Sum of Line 103 to 107	(216)	32	31	30	30	29	28	27	27	26
109	Income Tax Rate		27%	27%	27%	27%	27%	27%	27%	27%	27%	27%
110												
111	**Total Income Tax Expense**	Line 108 / (1 - Line 109) x Line 109	**(80)**	**12**	**11**	**11**	**11**	**11**	**10**	**10**	**10**	**10**
112												
113	**Capital Cost Allowance**											
114	Opening Balance	Proceeding Year, Line 120	-	32	29	27	25	23	21	19	18	16
115	Additions to Plant	Line 38	725	-	-	-	-	-	-	-	-	-
116	Less: AFUDC	Line 37	(21)	-	-	-	-	-	-	-	-	-
117	Less: CIAC	Line 40	(450)	-	-	-	-	-	-	-	-	-
118	Net Addition for CCA	Sum of Line 115 through 117	253	-	-	-	-	-	-	-	-	-
119	**CCA**	**[Line 114 + (Line 118/2)] x CCA Rate**	**(221)**	**(3)**	**(2)**	**(2)**	**(2)**	**(2)**	**(2)**	**(2)**	**(1)**	**(1)**
120	Closing Balance	Line 114 + Line 118 + Line 119	32	29	27	25	23	21	19	18	16	15
121												
122	**Carbon Credit**											
123	Credit (Tonne)		91.4	119.5	150.6	184.8	222.1	275.2	344.3	430.0	520.8	554.0
124	Carbon Price ($/tonne)		200	200	200	200	200	200	200	200	200	200
125	Carbon Credit Revenue ($)	Line 123 x Line 124	18	24	30	37	44	55	69	86	104	111
126												

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Line	Particulars	Reference	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
127	**NR Can Repayment**											
128	Revenue	Schedule 2, Line 10 x Schedule 2, Line 14	33	48	64	82	102	130	167	212	261	278
129												
130	Expenses											
131	Cost of Electricity	Schedule 2, Line 4	60	78	84	94	100	108	119	131	144	151
132	Operation & Maintenance	Line 3	16	33	34	34	35	34	34	35	36	36
133	Property Taxes	Line 4	-	-	(1)	1	1	1	1	0	0	0
134	Depreciation Expense	Line 5	-	65	65	65	65	65	65	65	65	65
135	Amortization Expense on CIAC	Line 6	-	(40)	(40)	(40)	(40)	(40)	(40)	(40)	(40)	(40)
136	Other Revenue - Carbon Credits	- Line 125	(18)	(24)	(30)	(37)	(44)	(55)	(69)	(86)	(104)	(111)
137	Total Expenses	Sum of Lines 131 through 136	58	112	112	117	116	112	109	105	101	102
138												
139	Operating Income	Line 128 - Line 137	(25)	(64)	(48)	(35)	(14)	18	58	107	159	176
140	Interest	Line 94	4	8	7	6	5	5	4	3	3	2
141	Earnings Before income taxes	Line 139 - Line 140	(29)	(72)	(54)	(41)	(20)	13	54	104	157	174
142	Income tax (recovery)	Line 111	(80)	12	11	11	11	11	10	10	10	10
143	Net Earnings	Line 141 - Line 142	51	(84)	(66)	(52)	(30)	3	43	94	147	165
144												
145	Cumulative Net Earnings	Cumulative Sum of Line 143	51	(33)	(98)	(151)	(181)	(179)	(135)	(41)	106	270
146	Repayment to Canada (True/False)	If both Line 143 & 145 are positive, then TRUE	TRUE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	TRUE
147												
148	Repayment Ratio	NR Can funding as ratio of Capital	62%	62%	62%	62%	62%	62%	62%	62%	62%	62%
149	Repayment Amount	If Line 146 = TRUE, then Line 148 x Line 143	32	-	-	-	-	-	-	-	91	102

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Line	Particulars	Reference	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1												
2	Incremental Annual Revenue Requirement	Cost of Service, Line 11	(67)	103	65	62	56	47	38	27	16	104
3	Subtract: FBC Power Purchase	-1 x Cost of Service, Line 2	(6)	(8)	(11)	(13)	(17)	(21)	(27)	(35)	(44)	(48)
4	Add: FBC Commercial Service Rate (RS 21)		60	78	84	94	100	108	119	131	144	151
5	Total Annual Revenue Requirement from EV Customer	Sum of Line 2 to Line 4	(13)	173	139	143	140	134	129	123	117	207
6	PV of Revenue Requirement (After-tax WACC of 5.76%)	Line 2 / (1 + Line 19)^Yr	(12)	154	118	114	106	96	87	78	71	118
7	**Total PV of Annual Revenue Requirement**	Sum of Line 6	***929***									
8												
9	***Levelized $ per Minute Rate***											
10	Number of Charging Minutes per Year		71,953	104,393	140,305	179,793	222,934	284,211	364,113	463,103	567,923	606,296
11	PV of Charging Minutes per year	Line 10 / (1 + Line 19)^Yr	68,032	93,326	118,596	143,693	168,463	203,065	245,978	295,803	342,989	346,211
12	Total PV of Charging Minutes per year	**Sum of Line 11**	**2,026,154**									
13												
14	Levelized $ per minute rate to recover Cost of Service	Line 7 x 1,000 / Line 12	0.46									
15	Transaction Fee Percentage		15%									
16	Levelized $ per minute rate (incl. Trans Fee)	Line 14 / (1 - Line 15)	**0.54**									
17												
18												
19	After- Tax Weighted Average Cost of Capital (WACC)	[1]	5.76%	5.76%	5.76%	5.76%	5.76%	5.76%	5.76%	5.76%	5.76%	5.76%
20	1 - ROE Rate x Equity Component + [(STD Rate x STD Portion) + (LTD Rate x LTD Portion)] x (1- Income Tax Rate)]											